

REMARKS

The Present Invention

The present invention teaches a valve assembly for use in a package. The package is configured to hold products for heating. The valve assembly includes a tubular body having an open end, a closed end, and a side wall extending radially from the open end the closed end. The side wall includes an inner wall surface defining a recess. The closed end includes a planar surface extending between opposite sides of the inner wall surface. The planar surface includes an aperture for releasing pressure generated by the heated product. The valve assembly includes a retaining member configured for snap fit engagement with the inner wall surface of the tubular body and a membrane element formed of cast polypropylene. The retaining member is disposed fittingly within the recess and the membrane element is disposed between the retaining member and the closed end. The membrane element is engaged with the planar surface of the closed end and covers the aperture. When the product is heated, pressure escapes through the aperture so as to displace a portion of the membrane element away from the planar surface of the closed end. Furthermore, the cast polypropylene membrane does deform thus the product may be heated multiple times.

Interview Summary

Applicant wants to thank the Examiner for taking the time to conduct a personal interview on July 29, 2009. During the interview, Applicant discussed with Examiner the Hollenstein reference. Applicant explained that the present invention was distinguishable over Hollenstein because the use of cast polypropylene membrane obviates the need for the annular channels disclosed by Hollenstein. No agreement was reached.

Status

Claims 1-22 were previously presented. The present amendment cancels claims 4, 7, 8, 16, 19, and 20 of the previously presented claims. Accordingly, it is claims 1-3, 5, 6, 9-15, 17, 18, 21, and 22, as now amended which are at issue.

Claim Rejections 35 USC §102

Examiner rejected claims 1-10, and claims 12-21 as being anticipated by U.S. Patent No. 4,444,219 to Hollenstein. The present invention is distinguishable over Hollenstein in two regards. First, the present application teaches a tubular body having a closed end with a planar surface in communication with the recess. The planar surface extends between opposite sides of the inner wall surface of the side wall. Hollenstein teaches away from a closed end with a planar surface because the valve taught in Hollenstein would not operate without the closed end having a plurality of concentric channels running around each aperture. The concentric channels are necessary to store sealant such as silicone oil. See Col. 4, Lns. 7-10.

Secondly, the present application does not teach or suggest the use of sealant. Hollenstein teaches that sealant is necessary for maintaining a complete seal between the diaphragm and the seat of the valve body (closed end). Hollenstein also teaches that the diaphragm is made of a thermoplastic material such as low-pressure polypropylene. Thus, the sealant is required to keep the diaphragm engaged with the seat so as to maintain a seal when the pressure outside the valve is greater than the pressure within the package. However, the present invention uses cast polypropylene. Cast polypropylene obviates the need for the channels and the sealant taught in Hollenstein. Furthermore, unlike the valve assembly taught in Hollenstein, the cast polypropylene diaphragm taught in the present invention is substantially resilient and

maintains its form under heat. Thus, the valve assembly may be used in operating conditions outside of the coffee packages taught in Hollenstein.

Accordingly, Applicant respectfully submits that Hollenstein does not anticipate claims 1 and 13 of the currently amended application. Claims 2, 3, 5, 6, and 9-12 depend upon independent claim 1, and claims 14, 15, 17, 18, 21, and 22 depend upon independent claim 13. Accordingly, Applicant believes claims 2, 3, 5, 6, 9-12, 14, 15, 17, 18, 21, and 22 are now in allowable form as claims 1 and 13 are in allowable form.

Claim Rejections 35 USC §103

Examiner rejected claims 1-22 as being unpatentable over Hollenstein in view of U.S. Patent No. 3,949,934 to Goglio. Applicant respectfully submits that Goglio does not teach nor suggest a diaphragm engaged with the planar surface of the closed end. Rather, as shown by Figures 2 and 3 of Goglio, the diaphragm is spaced apart from the planar surface of the closed end. As Hollenstein teaches away from a closed end having a planar surface, there is no motivation or suggestion to combine the planar surface taught in Goglio with the closed end taught in Hollenstein.

Applicant submits that the limitation of a membrane made of cast polypropylene is not an obvious substitution of a known material as the valves are used under different conditions, one of which teaches away from the other. The check valve taught in Hollenstein is not intended for heating. Rather, the check valve is operable to let gases generated by a product release so as to prevent the product from degrading. Specifically, Hollenstein teaches a check valve operable to release gases emitted by ground coffee to prevent the package from bursting as ground coffee emits large amounts of gas. Additionally, Hollenstein teaches that the check valve prevents air from mixing with the packaged ground coffee. Thus, the sealant is required to ensure that the

diaphragm is sealed to the seat of the valve body. The membrane of the present invention functions differently. Unlike the diaphragm taught in Hollenstein, the membrane is subjected to high cooking heat. Thus, use of a sealant may potentially cause damage to the valve. For the above reasons, Applicant submits that Hollenstein in fact teaches away from the intended use of the present invention and thus the use of cast polypropylene is not an obvious substitution. Accordingly, Applicant requests that Examiner withdraw the §103 rejection based upon Hollenstein in view of Goglio.

Summary

In view of the above amendment, Applicant believes the pending application is in condition for allowance. Applicant would like to thank the Examiner again for his time in conducting a personal interview. If the Examiner has any questions relating to the application, Applicant's attorney may be reached at (248) 647-6000.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 07-1180.

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Respectfully submitted,

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